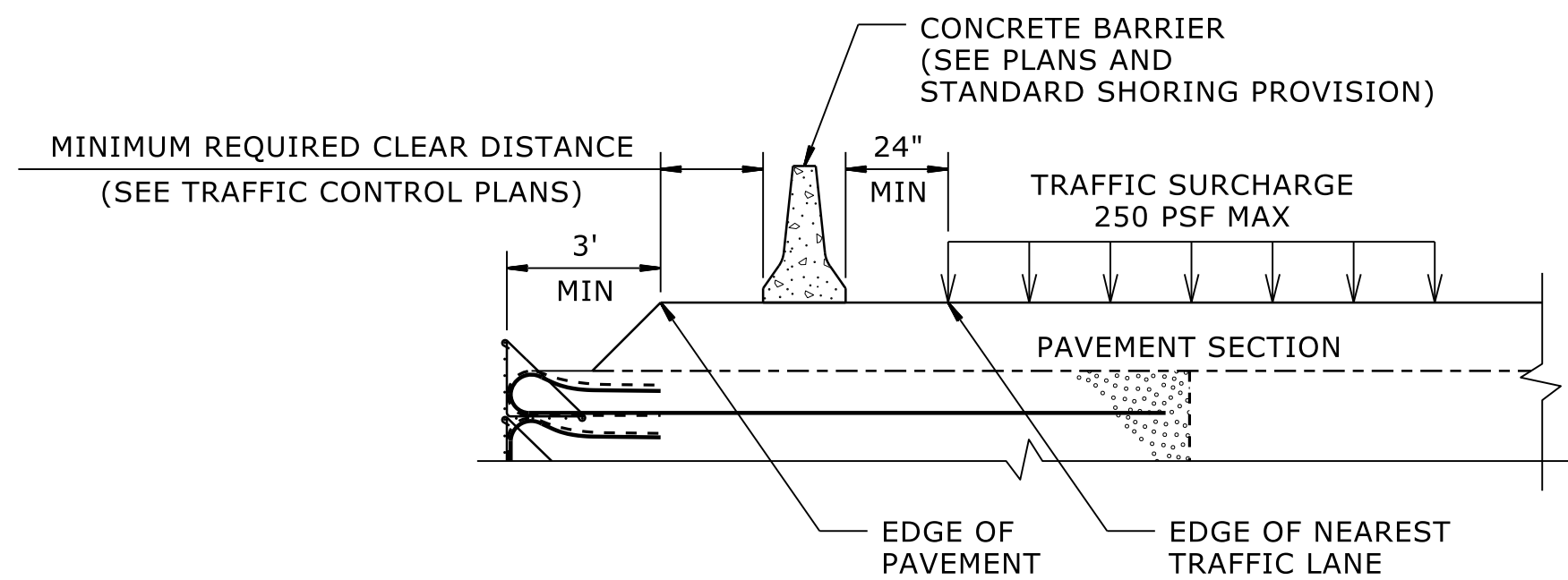
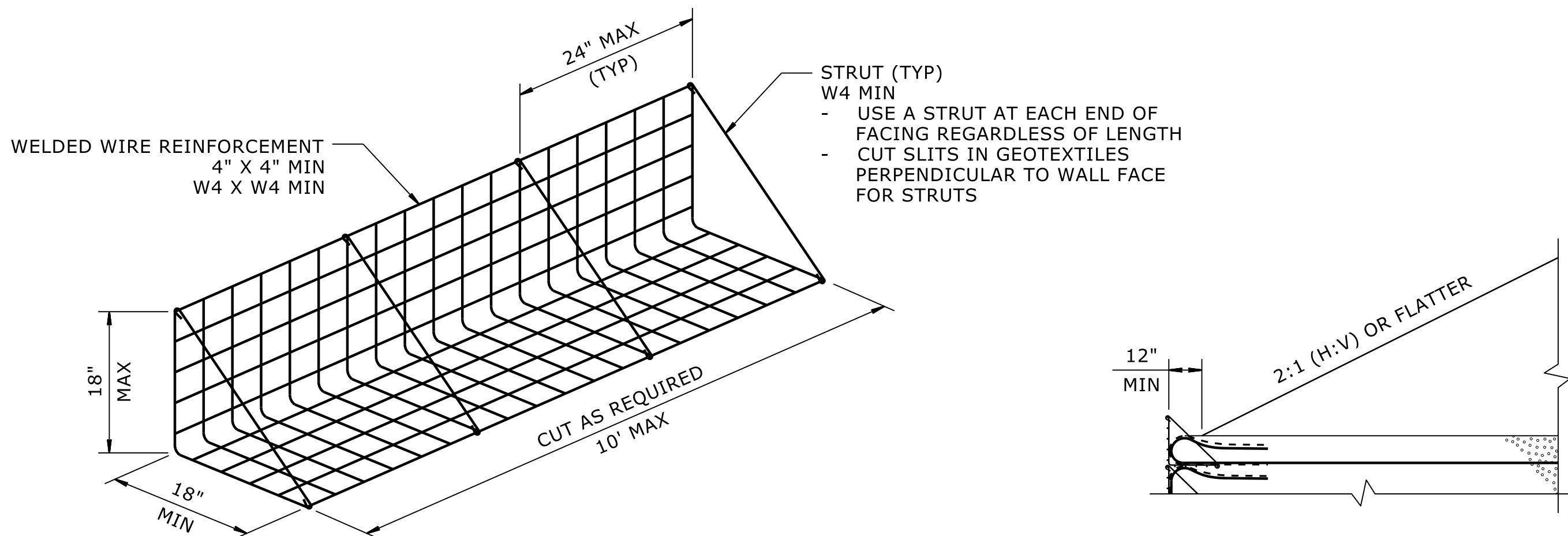


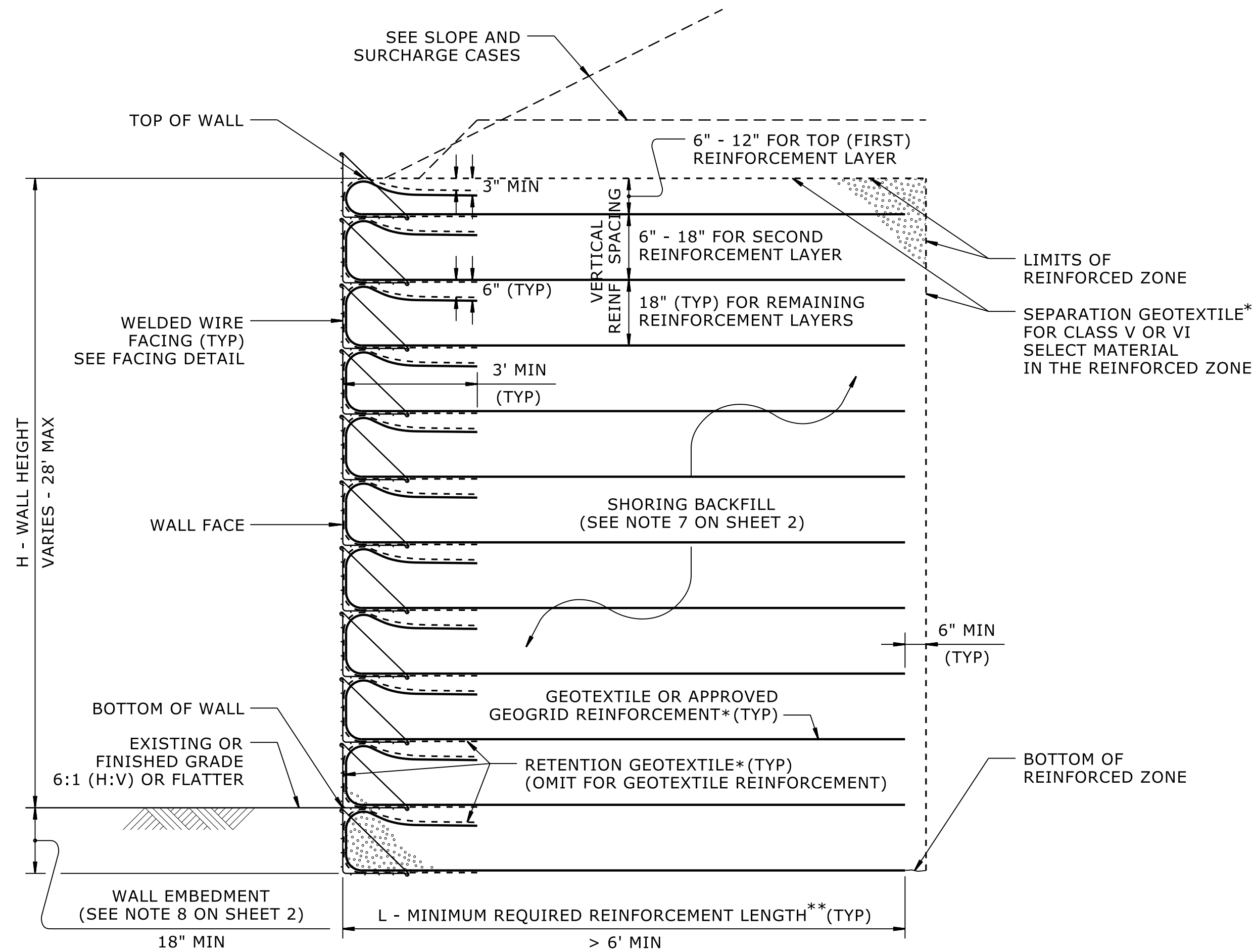


SURCHARGE CASE



FACING DETAIL

SLOPE CASE

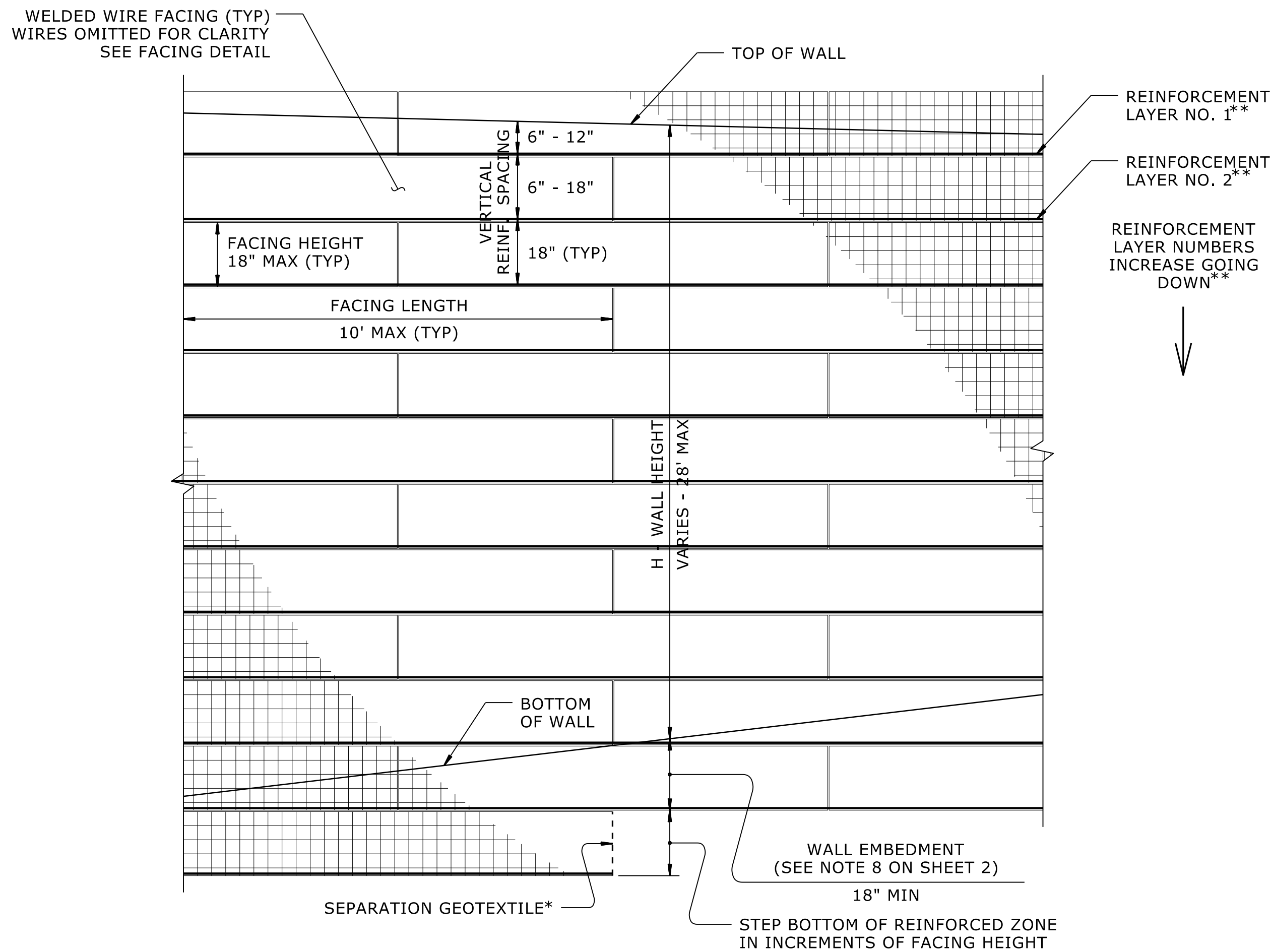


STANDARD TEMPORARY WALL

(FOR STANDARD TEMPORARY WALLS ON STRUCTURES, SEE TEMPORARY WALL ON STRUCTURE DETAIL ON SHEET 2.)

*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.

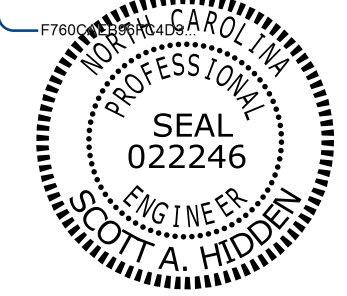
**SEE REINFORCEMENT TABLES ON SHEET 3.

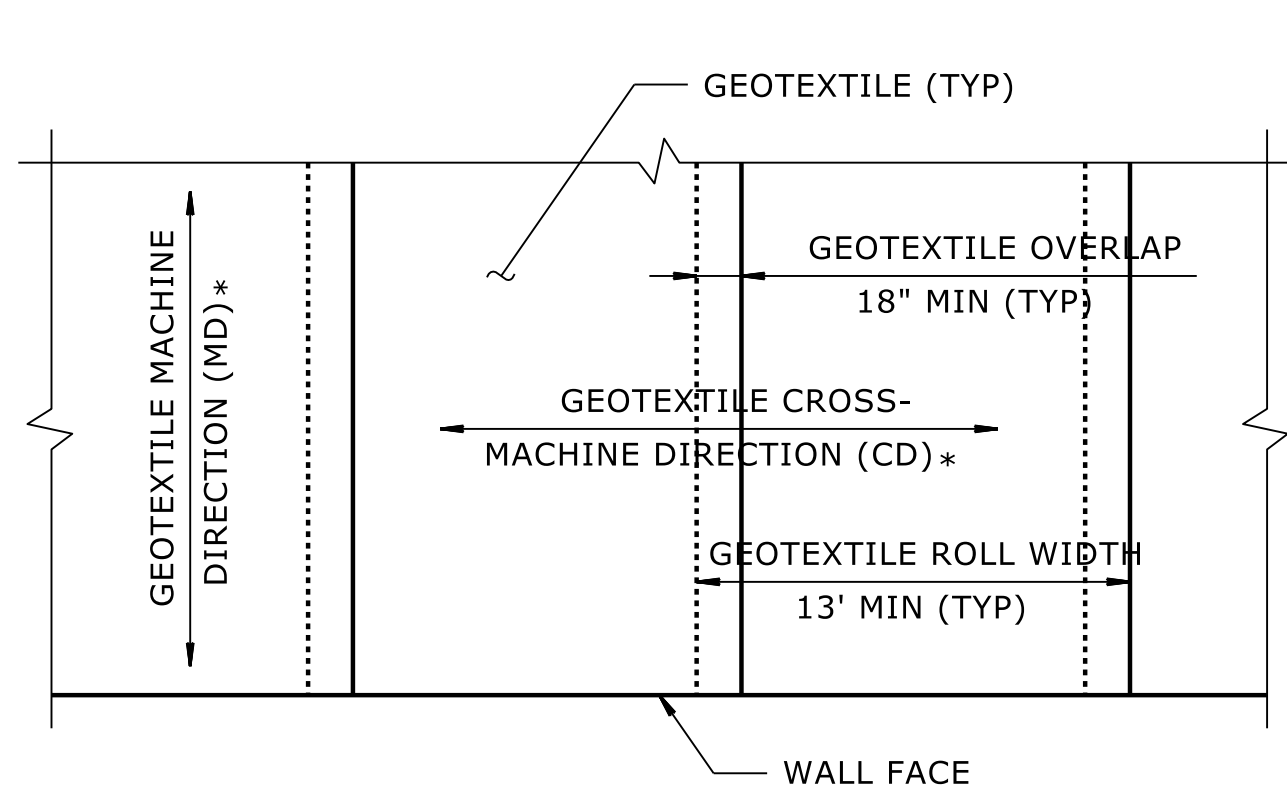


STANDARD TEMPORARY WALL - PARTIAL ELEVATION

*SEE GEOSYNTHETIC PLACEMENT DETAILS ON SHEET 2.

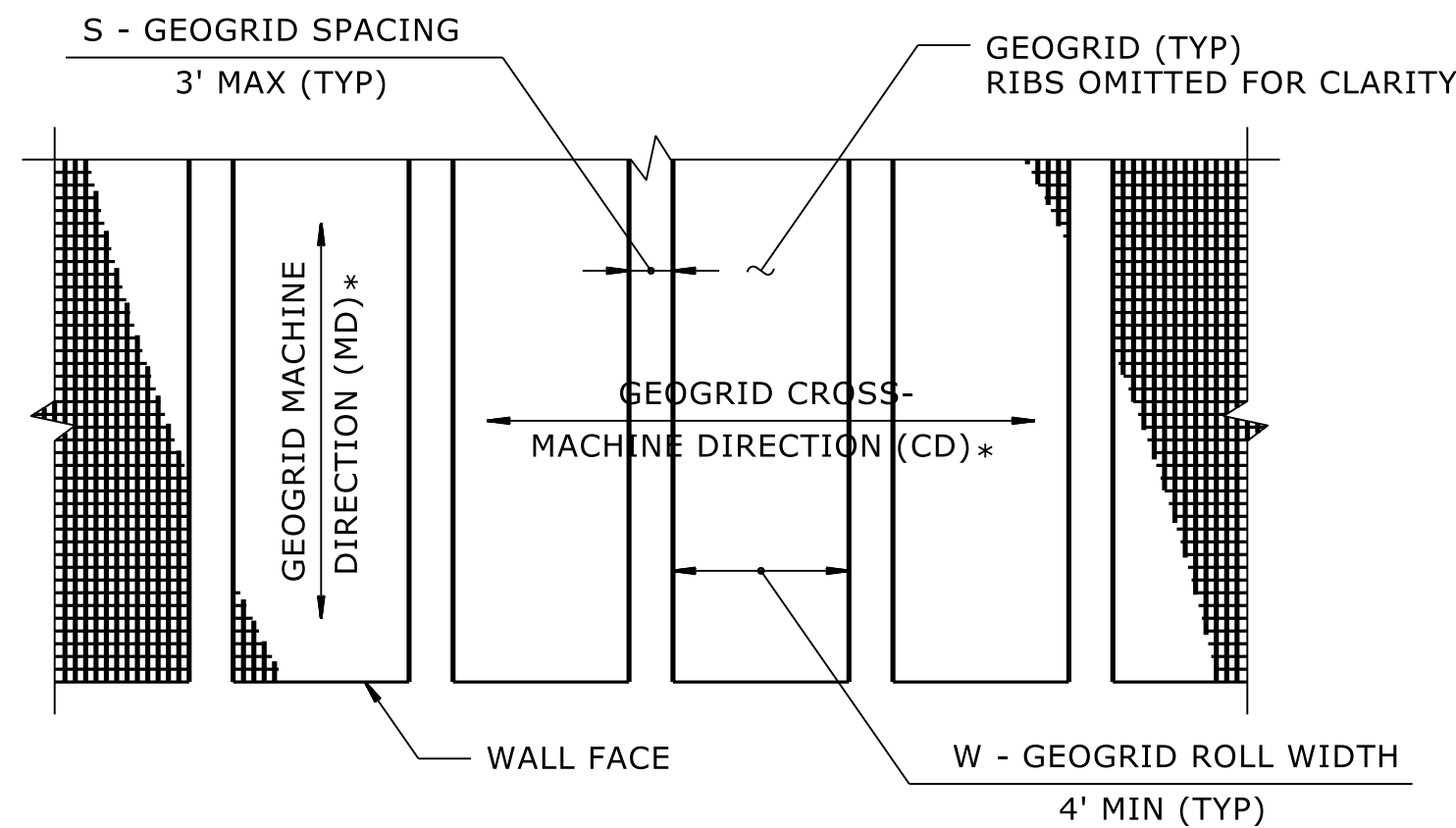
**SEE REINFORCEMENT TABLES ON SHEET 3.





GEOTEXTILE PLACEMENT

(100% COVERAGE MIN FOR
GEOTEXTILE REINFORCEMENT)

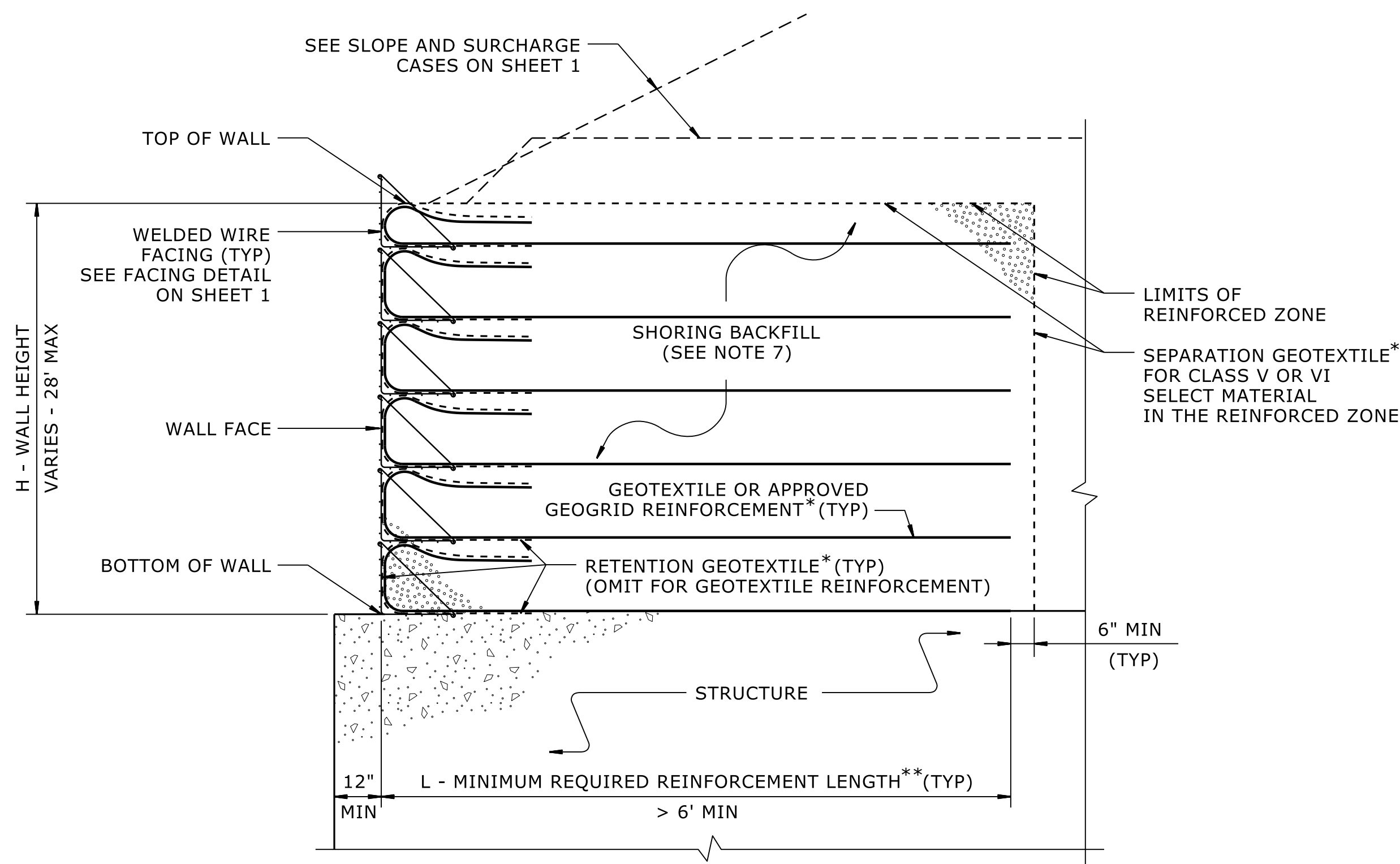


GEOGRID PLACEMENT

(80% COVERAGE MIN FOR
GEOGRID REINFORCEMENT -
 $\frac{W}{W+S} \times 100 \geq 80\%$,
SEE NOTE 11)

GEOSYNTHETIC PLACEMENT DETAILS

(PLAN VIEW)
*SEE NOTE 12.



TEMPORARY WALL ON STRUCTURE DETAIL

*SEE GEOSYNTHETIC PLACEMENT DETAILS.
**SEE REINFORCEMENT TABLES ON SHEET 3.

NOTES:

- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY WALLS AS NOTED IN THE PLANS.
- FOR STANDARD TEMPORARY WALLS, SEE STANDARD SHORING PROVISION.
- STANDARD TEMPORARY WALLS ARE BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF
- DO NOT USE STANDARD TEMPORARY WALLS IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
- DO NOT USE STANDARD TEMPORARY WALLS WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS BELOW TEMPORARY WALLS.
- USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, ASSUME GROUNDWATER DEPTH IS LESS THAN 7' BELOW BOTTOM OF REINFORCED ZONE. DO NOT USE STANDARD TEMPORARY WALLS IF GROUNDWATER OR FLOOD ELEVATION IS ABOVE BOTTOM OF REINFORCED ZONE.
- DO NOT USE A-2-4 SOIL FOR STANDARD TEMPORARY WALLS AROUND CULVERTS OR IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS FOR SLOPE CASES. DO NOT USE CLASS VI SELECT MATERIAL IN THE REINFORCED ZONE OF STANDARD TEMPORARY WALLS WITH GEOTEXTILE REINFORCEMENT.
- WALL EMBEDMENT IS NOT REQUIRED FOR STANDARD TEMPORARY WALLS ON STRUCTURES OR ROCK AS DETERMINED BY THE ENGINEER.
- DO NOT USE MORE THAN 4 DIFFERENT REINFORCEMENT STRENGTHS FOR EACH STANDARD TEMPORARY WALL.
- GEOGRIDS FOR GEOGRID REINFORCEMENT ARE APPROVED FOR SHORT TERM DESIGN STRENGTHS (3-YEAR DESIGN LIFE) IN THE MD AND CD BASED ON MATERIAL TYPE. THE LIST OF APPROVED GEOGRIDS WITH DESIGN STRENGTHS IS AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Products.aspx. DEFINE MATERIAL TYPE FROM THE WEBSITE ABOVE FOR SHORING BACKFILL AS FOLLOWS:

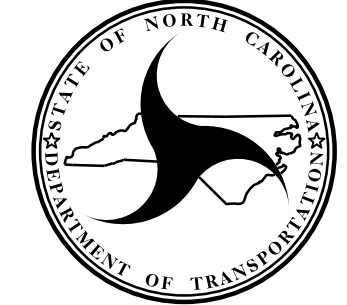
MATERIAL TYPE	SHORING BACKFILL
BORROW	A-2-4 SOIL
FINE AGGREGATE	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL
COARSE AGGREGATE	CLASS V OR VI SELECT MATERIAL

- FOR GEOGRID REINFORCEMENT WITH LESS THAN 100% COVERAGE, STAGGER REINFORCEMENT SO GEOGRIDS ARE CENTERED OVER GAPS IN THE REINFORCEMENT LAYER BELOW.
- AT THE CONTRACTOR'S OPTION, REINFORCEMENT MAY BE INSTALLED WITH THE MD PARALLEL TO THE WALL FACE IF BOTH OF THE FOLLOWING CONDITIONS OCCUR:
- W (REINFORCEMENT ROLL WIDTH) > (MINIMUM REQUIRED REINFORCEMENT LENGTH) + 4.5' AND
- REINFORCEMENT STRENGTH IN CD > MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD.
- SUBMIT A "STANDARD TEMPORARY WALL SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY WALL CONSTRUCTION. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
- DO NOT PLACE SHORING BACKFILL OR REINFORCEMENT UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.
- FOR STANDARD TEMPORARY WALLS WITH PILE FOUNDATIONS IN THE REINFORCED ZONE, DRIVE PILES THROUGH REINFORCEMENT AFTER CONSTRUCTING TEMPORARY WALLS.
- DO NOT SPLICE OR OVERLAP REINFORCEMENT SO SEAMS ARE PARALLEL TO THE WALL FACE.
- CONTACT THE ENGINEER WHEN EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, PAVEMENTS, PIPES, INLETS OR UTILITIES WILL INTERFERE WITH REINFORCEMENT.
- FOR STANDARD TEMPORARY WALLS WITH INTERIOR ANGLES LESS THAN 90 DEGREES, WRAP GEOSYNTHETICS AT ACUTE CORNERS AS DIRECTED BY THE ENGINEER.
- FOR STANDARD TEMPORARY WALLS WITH TOP OF WALL WITHIN 5' OF FINISHED GRADE, REMOVE TOP FACING AND INCORPORATE TOP REINFORCEMENT LAYER INTO FILL WHEN PLACING FILL IN FRONT OF WALL.

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2G-3 -

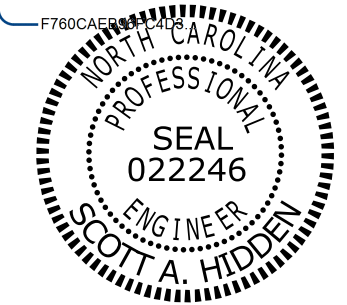
NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



GEOTECHNICAL
ENGINEERING UNIT

GEOTECHNICAL
ENGINEER

Scott A. Hiddel
29/2025



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

STANDARD
DETAIL NO. 1801.02

GEOTECHNICAL STANDARD DETAIL FOR

TEMPORARY WALL (SHEET 2 OF 3)

SLOPE OR SURCHARGE CASE	GROUNDWATER DEPTH BELOW BOTTOM OF REINFORCED ZONE (SEE NOTE 6 ON SHEET 2) (FT)	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)	H - WALL HEIGHT (FT)																									
			< 4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
SLOPE CASE	> 0	CLASS II, TYPE 1, CLASS III, CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	8	9	11	12	13	13	14	15	16	17	18	19	20	21	22	23	24	24	25	26	27	27	
SURCHARGE CASE	> 0 TO 7 FOR H < 20' > 0 TO 10 FOR H > 20'	ALL SHORING BACKFILL TYPES	6	7	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	17	17	18	19	19	20	21	22	
	> 7 FOR H < 20' > 10 FOR H > 20'	A-2-4 SOIL	6	6	7	8	8	9	9	10	11	11	12	12	13	14	14	15	16	16	17	18	18	19	20	20	21	
		CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	6	6	7	7	8	8	9	10	10	11	11	12	12	13	14	15	15	16	16	17	17	18	18	19	20	
		CLASS V OR CLASS VI SELECT MATERIAL	6	6	7	7	7	8	8	9	9	10	10	11	12	13	13	14	14	15	15	16	17	17	18	19	19	

L - MINIMUM REQUIRED REINFORCEMENT LENGTH (FT)
(FOR ALL REINFORCEMENT TYPES)

WALL HEIGHT (H) + WALL EMBEDMENT (FT)	NUMBER OF REINFORCEMENT LAYERS*
2.5 - 4	3
4 - 5.5	4
5.5 - 7	5
7 - 8.5	6
8.5 - 10	7
10 - 11.5	8
11.5 - 13	9
13 - 14.5	10
14.5 - 16	11
16 - 17.5	12
17.5 - 19	13
19 - 20.5	14
20.5 - 22	15
22 - 23.5	16
23.5 - 25	17
25 - 26.5	18
26.5 - 28	19
28 - 29.5	20

*BASED ON VERTICAL REINFORCEMENT SPACING SHOWN ON SHEET 1.

REINFORCEMENT LAYER NUMBER *	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V SELECT MATERIAL
1	2400	2400	2400	2400	2400
2	2400	2400	2400	2400	2400
3	2400	2400	2400	2400	2400
4	2400	2400	2500	2400	2400
5	2500	2400	3000	2400	2400
6	3000	2400	3500	2800	2400
7	3500	2700	4000	3200	2600
8	4000	3100	4500	3600	2900
9	4500	3500	5000	4000	3200
10	5000	3900	5500	4400	3500
11	5500	4300	6000	4800	3800
12	6000	4700	6500	5200	4100
13	6500	5100	7000	5600	4400
14	7000	5400	7500	6000	4700
15	7500	5800	8000	6400	5000
16	8000	6200	8500	6800	5300
17	8500	6600	9000	7200	5600
18	9000	7000	9500	7600	5900
19	9500	7400	10000	8000	6200
20	10000	7800	10500	8400	6500

GEOTEXTILE REINFORCEMENT
ULTIMATE TENSILE STRENGTH (LB/FT)

MINIMUM REQUIRED REINFORCEMENT STRENGTH IN MD

(SEE NOTE 9 ON SHEET 2.)
*SEE PARTIAL ELEVATION ON SHEET 1 FOR REINFORCEMENT LAYER NUMBERING.

REINFORCEMENT LAYER NUMBER *	SHORING BACKFILL TYPE IN THE REINFORCED ZONE (SEE NOTE 7 ON SHEET 2)				
	SLOPE CASE		SURCHARGE CASE		
	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL	A-2-4 SOIL	CLASS II, TYPE 1 OR CLASS III SELECT MATERIAL	CLASS V OR CLASS VI SELECT MATERIAL
1	240	200	340	290	240
2	380	310	520	430	350
3	530	420	700	570	460
4	690	550	870	720	570
5	860	690	1050	860	680
6	1030	830	1220	1000	790
7	1200	970	1400	1150	900
8	1370	1110	1580	1290	1010
9	1550	1240	1750	1430	1120
10	1720	1380	1930	1580	1230
11	1890	1520	2100	1720	1340
12	2060	1660	2280	1860	1450
13	2240	1800	2450	2010	1560
14	2410	1940	2630	2150	1670
15	2580	2080	2800	2290	1780
16	2750	2220	2980	2440	1890
17	2930	2360	3160	2580	2000
18	3100	2500	3330	2720	2110
19	3270	2640	3510	2860	2220
20	3440	2780	3690	3000	2330

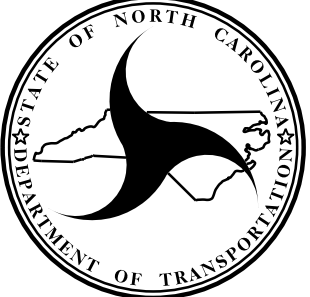
GEOGRID REINFORCEMENT
SHORT-TERM DESIGN STRENGTH (LB/FT)

(SEE NOTE 10 ON SHEET 2.)

BR-0015

2G-4- -

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION



GEOTECHNICAL ENGINEERING UNIT

GEOTECHNICAL ENGINEER

Scott A. Hadden

11/29/2025



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STANDARD
DETAIL NO. 1801.02

GEOTECHNICAL STANDARD DETAIL FOR
TEMPORARY WALL (SHEET 3 OF 3)

5/26/20

COMPUTED BY: ABGDATE: 1/25

CHECKED BY: REODATE: 1/25

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

2'-6" CURB & GUTTER SUMMARY

IN LINEAR FEET (LF)

LINE	STATION	STATION	SIDE	GROSS LENGTH	DEDUCTIONS		NET LENGTH
					DRIVES	OTHERS	
-LPB-	10+62.80	15+14.37	RT	410			410
LPB/Y1	INTERSECTION	14+09.25	RT	124			124
-Y1-	14+09.25	16+65.55	RT	256			256
-Y1-	INTERSECTION	17+12.02	RT	94			94
-Y1-	14+34.92	18+61.24	LT	426			426
Y1/Y3	INTERSECTION	10+89.91	LT	119			119
-Y2-	10+38.62	13+66.00	LT	327	30.00		297
-Y2-	14+70.00	18+50.00	RT	380			380
-L-	46+80.00	47+94.11	RT	150			150
					TOTAL		2,257
					SAY		2,260

SHOULDER BERM GUTTER SUMMARY

IN LINEAR FEET (LF)

LINE	Station	Station	LENGTH
-L- (RT)	24+60.37	28+83.36	423
-L- (LT)	30+08.46	32+00.00	191.54
-L- (RT)	30+41.10	30+85.00	43.9
		TOTAL:	658.44
		SAY:	660

EXPRESSWAY GUTTER SUMMARY

IN LINEAR FEET (LF)

LINE	Station	Station	LENGTH
-L- (LT)	32+50.00	36+00.00	350
		TOTAL:	350
		SAY:	350

WOVEN WIRE FENCE SUMMARY

STATION	STATION	LT. RT.	FABRIC L.F.	4" POSTS (EA)	5" POSTS (EA)
-L- 12+90.00	-L- 21+37.84	LT.	847.84	53	14
-RPB- 11+65.00	-RPB- 18+05.22	LT.	697.39	43	12
-Y1- 10+85.47	-RPB- 11+55.70	RT.	118.63	4	8
-L- 12+00.00	-L- 24+60.37	RT	1269.59	80	19
-Y2- 11+80.00	-Y2- 14+36.73	RT	270.62	15	8
-L- 31+94.22	-L- 36+50.00	LT	455.78	30	5
-Y1- 11+50.00	-Y2- 10+70.96	LT	151.71	5	10
		TOTAL:	3811.56	230	76
		SAY:	3820	230	76

SUMMARY OF EARTHWORK

(IN CUBIC YARDS)

Station	Station	Uncl. Excav.	Undercut Excav.	Embank. +%	Borrow	Waste
Phase 1 - Temp Pavement (Median Crossover)						
-LDET_X01- 10+00.00	-L- 28+86.81*	673	-	17	17	673
-L- 29+97.87	-L- 49+45.00*	288	-	532	532	288
Phase 1 SUBTOTAL:		961	-	549	549	961
Phase 2						
-L- RT 12+00.00	-L- RT 28+90 (Begin Bridge)*	421	-	4,162	3,741	-
-L- RT 30+02 (End Bridge)	-L- RT 36+50.00*	37	-	1,088	1,051	-
-RPD- 10+00.00	-RPD- 13+00.00	155	-	121	-	34
Phase 2 SUBTOTAL:		613	-	5,371	4,792	34
Phase 3						
-L- LT 12+00.00	-L- LT 28+90 (Begin Bridge)*	7,877	-	1,686	-	6,191
-L- LT 30+02 (End Bridge)	-L- LT 49+50.00*	455	-	1,578	1,248	125
-Y1- RT 13+00.00	-Y1- RT 19+50.00*	883	-	606	-	277
-RPB- 10+00.00	-RPB- 17+85.00*	51,327	-	14	-	51,313
RPB LPB Y1 13+00.00	RPB LPB Y1 14+50.00*	16	-	-	-	16
Phase 3 SUBTOTAL:		60,558	-	3,884	1,248	57,922
Phase 3A						
-L- LT 36+70.00	-L- RT 49+50.00*	22	-	3	-	20
-Y1- RT 10+00.00	-Y1- RT 13+00.00*	379	-	2	-	377
-Y2- 11+68.00	-Y2- 14+75.00*	1,023	625	115	-	1,533
-LPB- 10+00.00	-LPB- 16+00.00*	5,309	75	1,668	-	3,716
-RPB- 17+85.00	-RPB- 19+50.00*	1,375	50	0	-	1,425
RPB LPB Y1 11+50.00	RPB LPB Y1 13+00.00*	448	-	0	-	448
-DRW1- 10+00.00	-DRW1- 11+50.00*	453	300	5	-	748
Phase 3A SUBTOTAL:		9,009	1,050	1,792	-	8,266
Phase 4						
-L- 12+00.00	-L- 28+90 (Begin Bridge)*	188	-	1,440	1,440	188
-L- 30+02 (End Bridge)	-L- 49+50.00*	381	-	446	446	381
-Y1- LT 10+00.00	-Y1- LT 19+50.00*	619	-	270	-	349
-Y2- 10+00.00	-Y2- 11+68.00	542	-	72	-	470
-Y2- 14+75.00	-Y2- 18+50.00*	241	125	135	-	231
Phase 4 SUBTOTAL:		1,971	125	2,362	1,885	1,619
PROJECT TOTALS:		73112	1175	13958	8474	68802
Additional Undercut			2300	2760	2760	2300
Waste in Lieu of Borrow					-3133	-3133
Loss due to Clearing & Grubbing		-2100				-2100
Less Select Granular Material					-2760	-2760
Replace Topsoil on Borrow Pit (5%)						
GRAND TOTALS:		71012	3475	16718	5341	63109
SAY:		71100	3475	16800	5400	63200

*UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN TOP 3' OF EMBANKMENT OR BACKFILL -L- 14+25.00 TO 16+25.00 (1725 CY), -L- 19+25.00 TO 20+25.00 (175 CY), -L- 33+25.00 TO 33+75.00 (25 CY), -L- 37+75.00 TO 38+60.00 (50 CY), -L- 43+75.00 TO 45+75.00 (150 CY), -Y1- 10+25.00 TO 12+25.00 (175 CY), -Y1- 13+25.00 TO 14+75.00 (50 CY), -Y2- 12+25.00 TO 16+06.00 (650 CY), -RPB- 10+00.00 TO 10+38.00 (125 CY), -RPB- 12+40.00 TO 16+75.00 (14550 CY), -RPB- 18+75.00 TO 19+14.00 (25 CY), -LPB- 12+34.00 TO 13+54.00 (1300 CY), -LPB- 15+31.00 TO 15+74.00 (50 CY) & -DRW1- 10+11.00 TO 11+45.00 (275 CY) = 19,325 CY PER GEOTECH

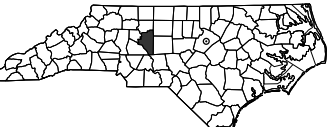
EST.SHALLOW UNDERCUT BY STATIONS = 4600 CUBIC YARDS
CLASS IV SUBGRADE STABILIZATION = 11425 TONS
EST. SELECT GRANULAR MATERIAL = 3175 CUBIC YARDS
PER GEOTECH RECOMMENDATION, ESTIMATED X,XXX CUBIC YARDS OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER.

NOTES:
EARTHWORK QUANTITIES WERE CALCULATED BY THE ROADWAY DESIGN ENGINEER USING ORD NAMED BOUNDARIES. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.
APPROXIMATE QUANTITIES ONLY. BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR GRADING.

BR-0015

FINAL38-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIDSON COUNTY



HIGHWAY DIVISION 9

PREPARED BY

KCA

KISINGER CAMPO & ASSOCIATES

NC FIRM LICENSE No. C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919) 882-7838

REVISIONS

REVISIONS

[illegible]

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

SHEET TOTALS (48" or Less)

[illegible]

REVISIONS

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

[illegible]

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION	OFFSET	STRUCTURE NUMBER		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	MINIMUM REQUIRED SLOPE	Side Drain Pipe (RCP, CSP, CAAP, HDPE, or PVC)												WSP PIPE	R. C. PIPE CLASS IV								QUANTITIES FOR DRAINAGE STRUCTURES				FRAME, GRATES, AND HOOD				CONCRETE TRANSVERSAL SECTION		MATERIAL SECTION										C.A.A.		C.B.		C.S.		D.I.		G.D.I.		H.D.P.E.		J.B.		M.H.		N.S.		P.V.C.		R.C.		T.B.D.I.		T.B.J.B.		W.S.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		FROM	TO					12	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE		DO NOT USE PPP	DO NOT USE PVC	.075	15	12	15	18	24	30	36	42	48	0' THRU 5'	5' THRU 10'	10' AND ABOVE	A	B	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	JJ	JK	JL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TT	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YY	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS

SHEET TOTALS (48" or Less)																	8																1	2																															0.4465	235	
PROJECT TOTALS (48" or Less)		40	64	168																424	1992	1222	912	376																65	20	1	13	4	7	2	1	1	34	10	17	6	2	1	1	1	15	2	5	5	1	1	6	2	1	5.3365	1481

REVISIONS

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 54 INCHES & GREATER)

[illegible]

COMPUTED BY: D. KUBINSKI DATE: 8/28/2023
CHECKED BY: J. FREGOSI DATE: 8/28/2023

(2-3-23)

PROJECT NO.
BR-0015

SHEET NO.
3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
-Y1-	15+75	17+50	LT/RT	SD	350
CONTINGENCY				SD	500
				TOTAL LF:	850

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
-Y1-	10+25	12+25	ASU (1)	12	100	200	300		
-Y1-	13+25	14+75	ASU (1)	12	100	200	300		
CONTINGENCY					500	1000	1500		
			TOTAL CY/TONS/SY:		700	1400**	2100**	0	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
*AST = Aggregate Stabilization
**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
-L-	12+00	28+67	ASU (1)	12	1075	2250	6650		
-L-	30+25	49+50	ASU (1)	12	1900	3900	7500		
-RPB-	10+00	19+14	ASU (1)	12	950	1900	2850		
-LPB-	10+00	15+74	ASU (1)	12	475	975	1900		
CONTINGENCY					500	1000	1500	500	
			TOTAL CY/TONS/SY:		4900	10025**	20400**	500	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
*AST = Aggregate Stabilization
**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

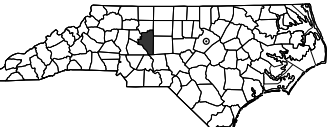
SUMMARY OF BRIDGE WAITING PERIODS

Bridge Description	End Bent/ Bent No.	MONTHS
Bridge No. 15	EB1	2
Brdige No. 15	EB2	2

BR-0015

FINAL3G-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIDSON COUNTY



HIGHWAY DIVISION 9

PREPARED BY

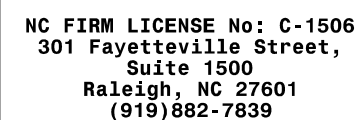
KCA

KISINGER CAMPO
& ASSOCIATES

NC FIRM LICENSE No: C-1506
301 Fayetteville Street,
Suite 1500
Raleigh, NC 27601
(919)882-7838

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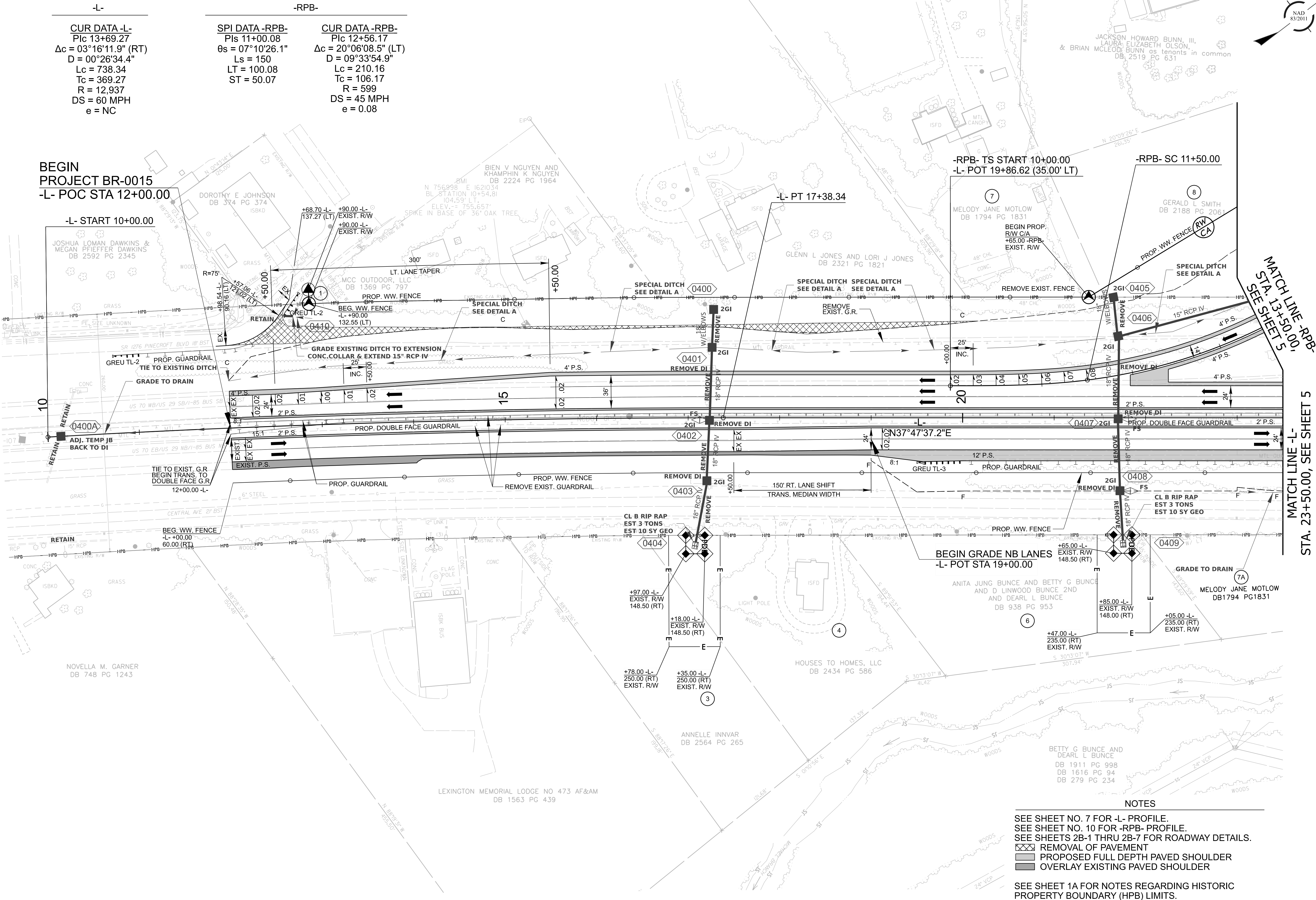
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PARCEL INDEX SHEET

*NOTE: CLAIMS FOR PARCELS 2 AND 5 HAVE BEEN REMOVED/DELETED.

[illegible]



BR-0015

FINAL4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIDSON COUNTY

ROADWAY DESIGN
ENGINEER

3/4/2025

SEAL
056183
ANDREA B. GORDON
ENGINEER

Signature of
ANDREA B. GORDON

HYDRAULICS
ENGINEER

3/4/2025

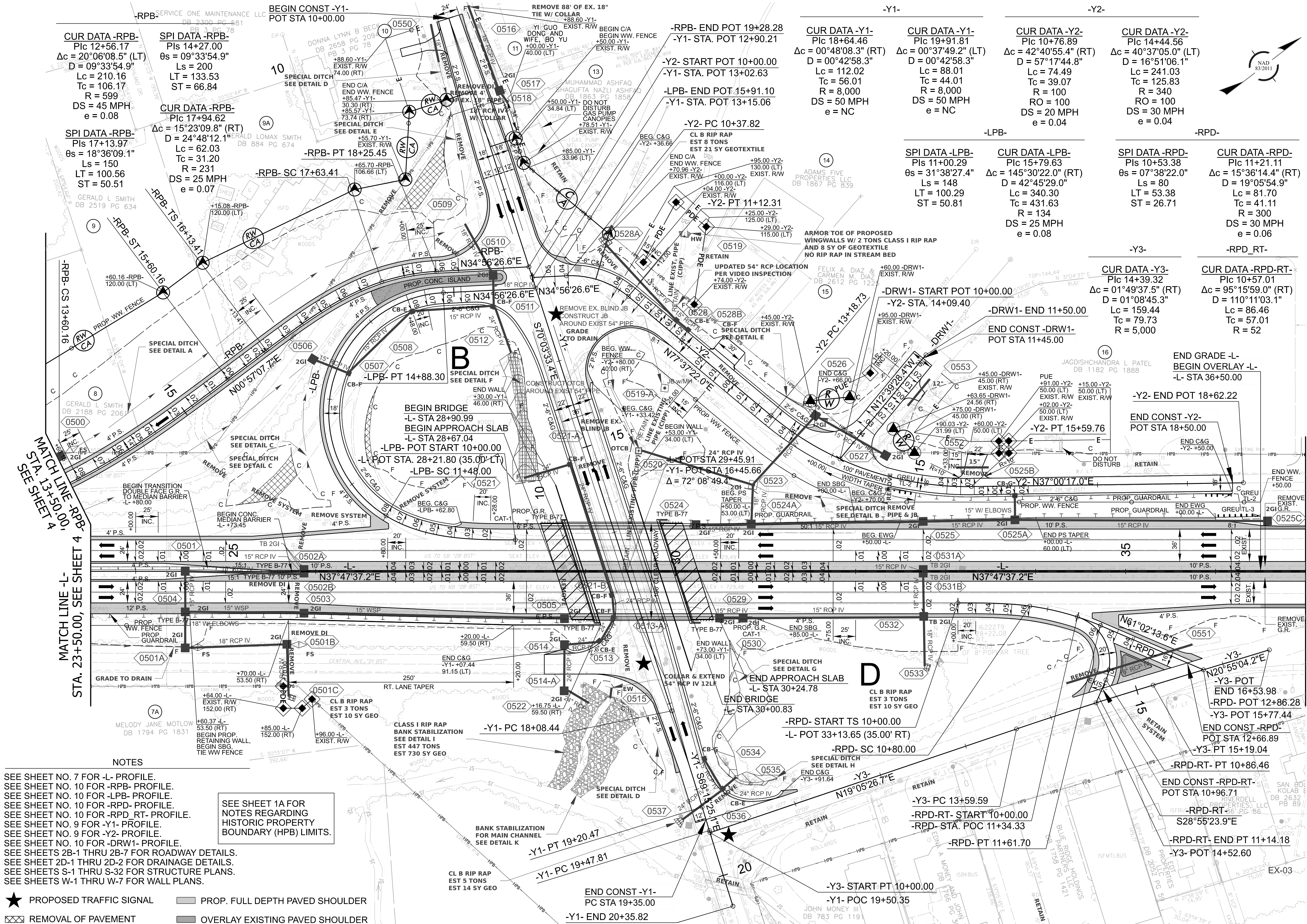
SEAL
055550
WILLIAM N. KING
ENGINEER

Signature of
W. Nelson King

PREPARED BY

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& ASSOCIATES
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BR-0015

FINAL 5

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DEPARTMENT OF TRANSPORTATION
DAVIDSON COUNTY

HIGHWAY DIVISION 9
ROADWAY DESIGN
ENGINEER

4/2/2025

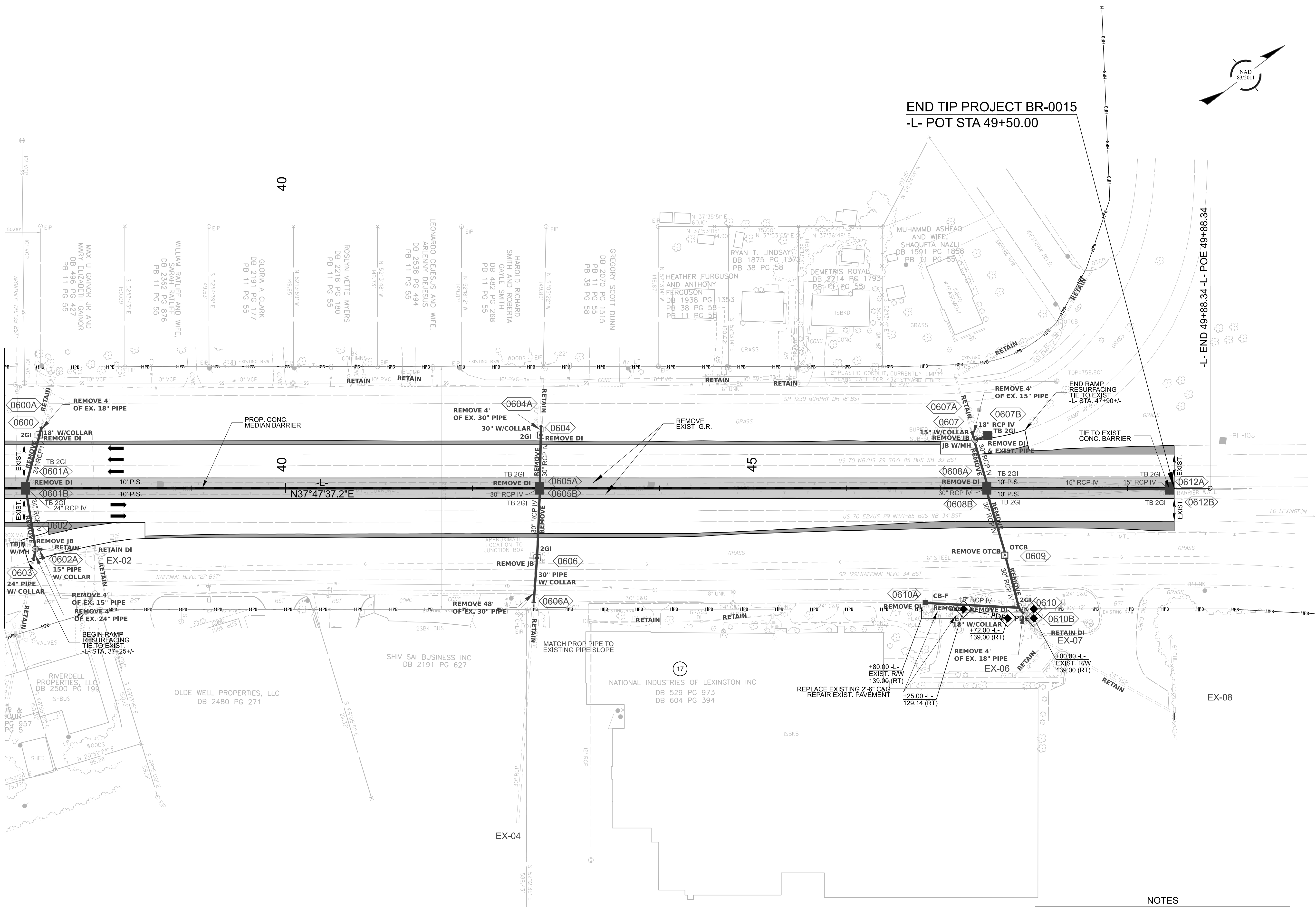
SEAL 056183
ANDREA B. GORDON
ENGINEER

SEAL 055550
WILLIAM N. KING
ENGINEER

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KISINGER CAMPO & ASSOCIATES
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Suite 1500
Raleigh, NC 27601
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MATCH LINE -L- STA. 37+00.00, SEE SHEET 5



- NOTES
- SEE SHEET NO. 7, 8 FOR -L- PROFILE.
SEE SHEETS 2B-1 THRU 2B-7 FOR ROADWAY DETAILS.
- PROPOSED FULL DEPTH PAVED SHOULDER
 - OVERLAY EXISTING PAVED SHOULDER

BR-0015

FINAL6

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIDSON COUNTY

HIGHWAY DIVISION 9
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ENGINEER
3/4/2025

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ENGINEER
ANDREA B. GORDON

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ENGINEER
3/4/2025

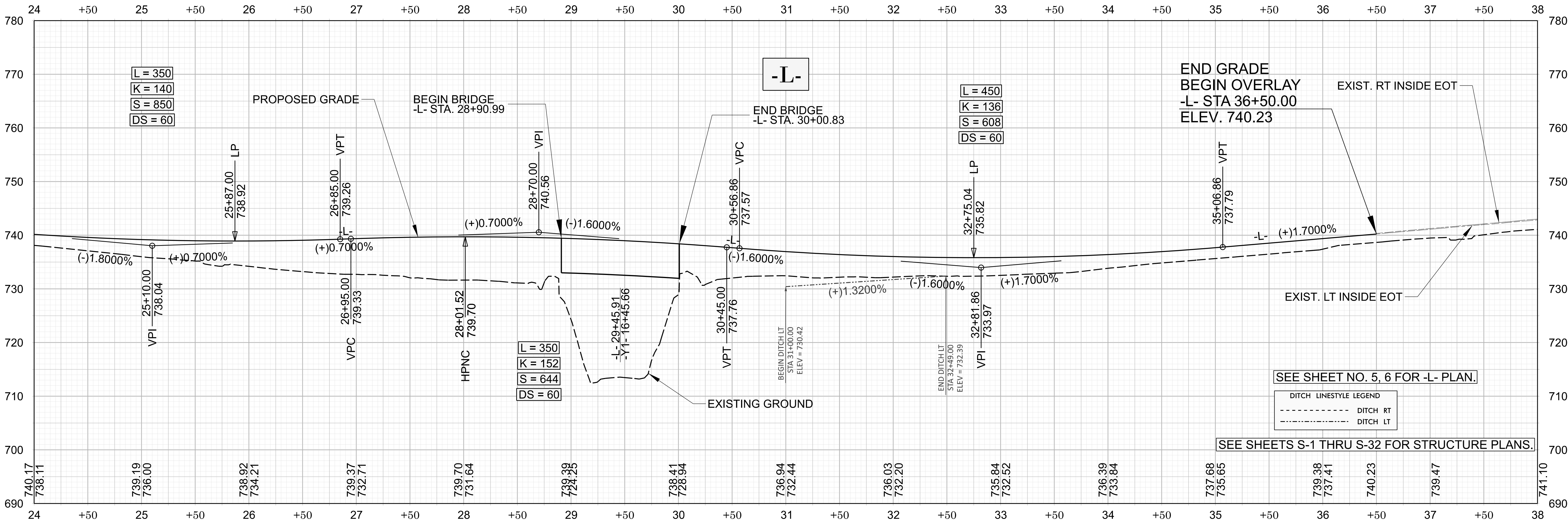
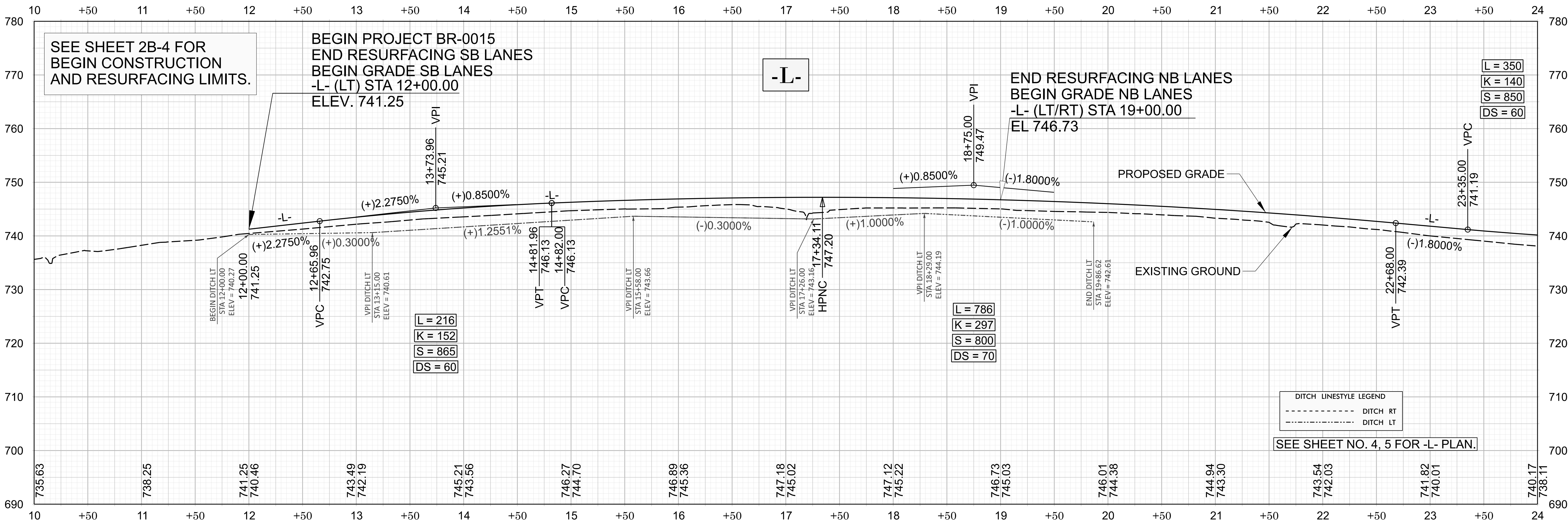
SEAL
055550

ENGINEER
WILLIAM N. KING

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BR-0015

FINAL7

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIDSON COUNTY

HIGHWAY DIVISION 9

ROADWAY DESIGN
ENGINEER

3/11/2025

SEAL
056183

ANDREA B. GORDON
ENGINEER

Signature:

3/11/2025

SEAL
055550

WILLIAM N. KING
ENGINEER

Signature:

3/11/2025

HYDRAULICS
ENGINEER

Signature:

3/11/2025

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3/11/2025

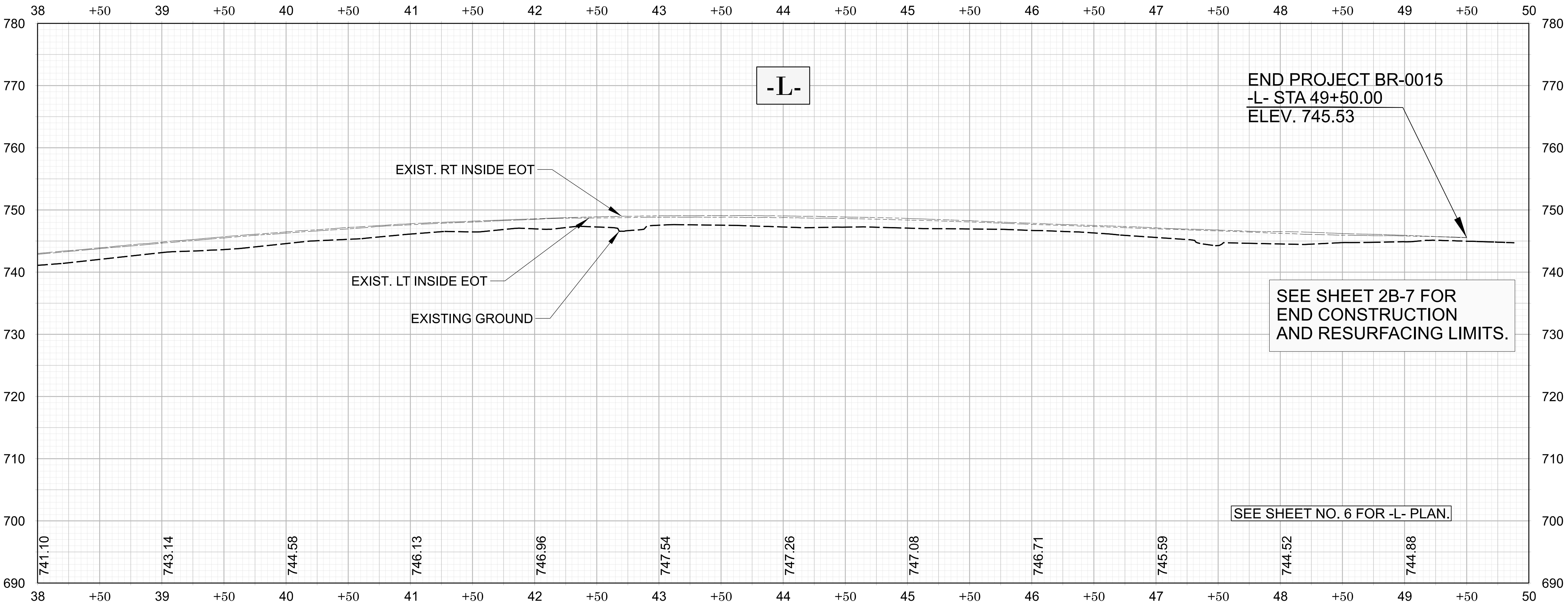
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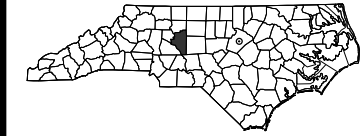
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DAVIDSON COUNTY



HIGHWAY DIVISION 9

ROADWAY DESIGN
ENGINEER

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SEAL
056183

ANDREA B. GORDON
ENGINEER

Signature
Andrea B. Gordon

3/11/2025

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HYDRAULICS
ENGINEER

3/11/2025

SEAL
055550

WILLIAM N. KING
ENGINEER

Signature
William N. King

05318B0815964FDD

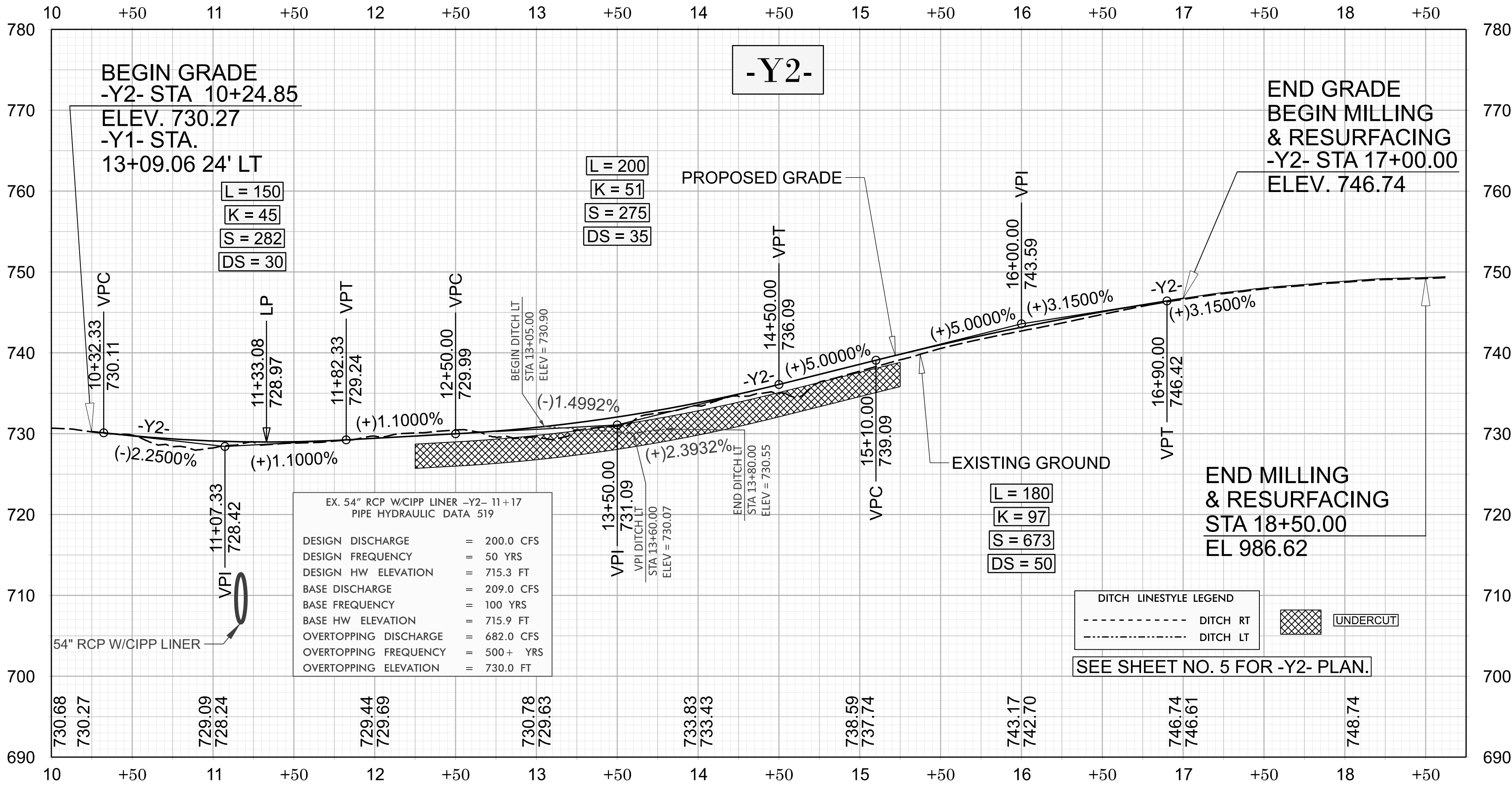
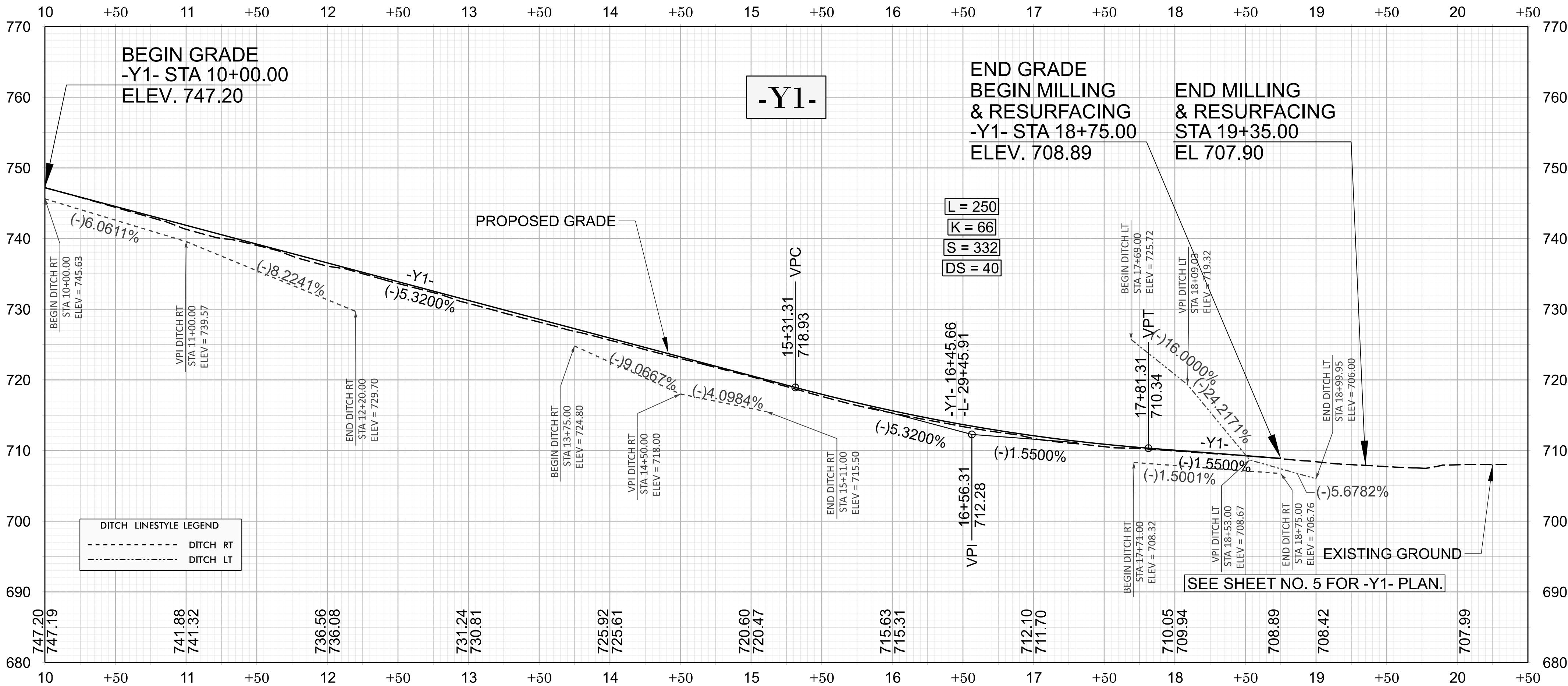
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FINAL9

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIDSON COUNTY

HIGHWAY DIVISION 9

ROADWAY DESIGN
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3/11/2025

Signature: *Andrew B. Gordon*

3/11/2025

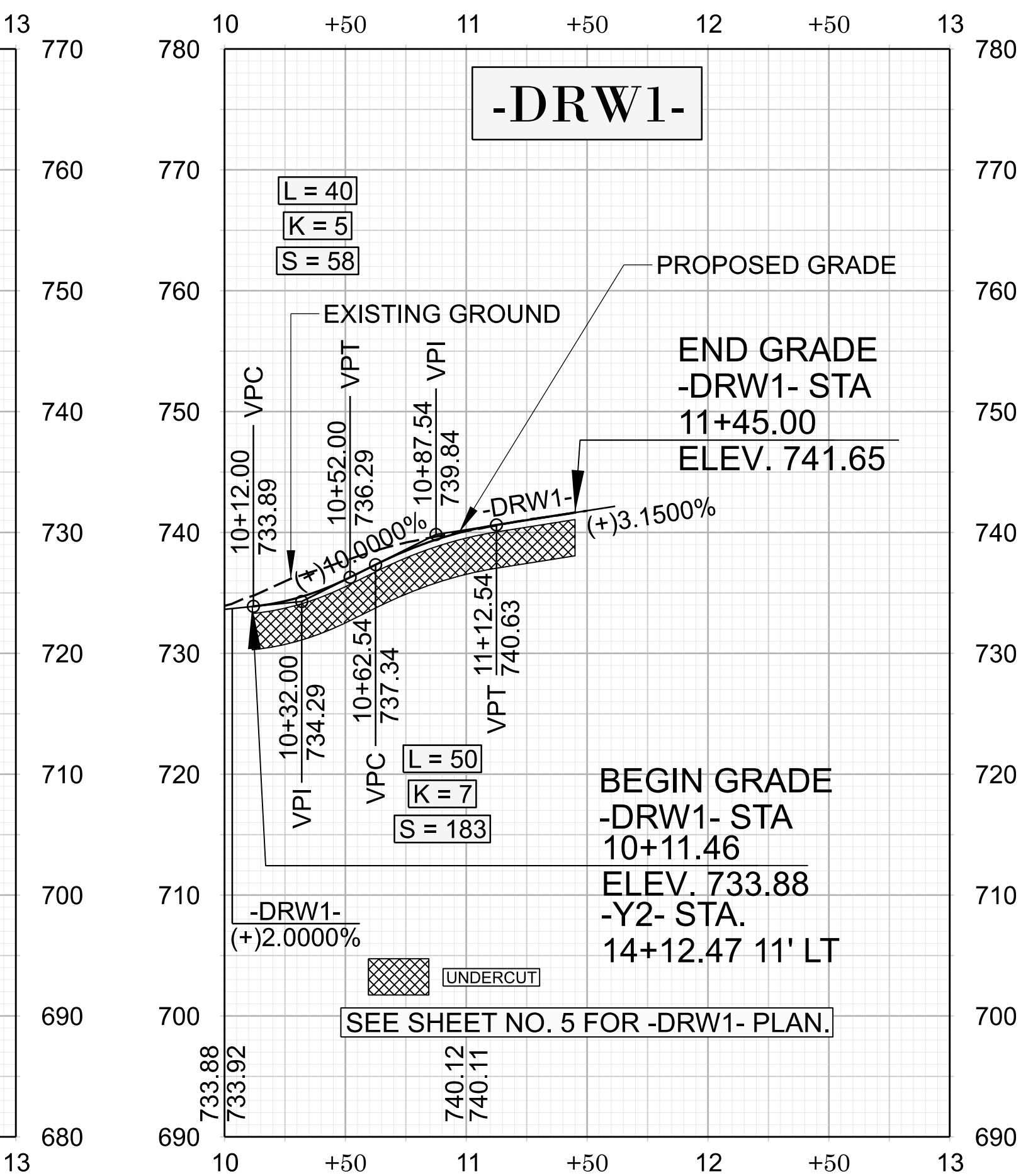
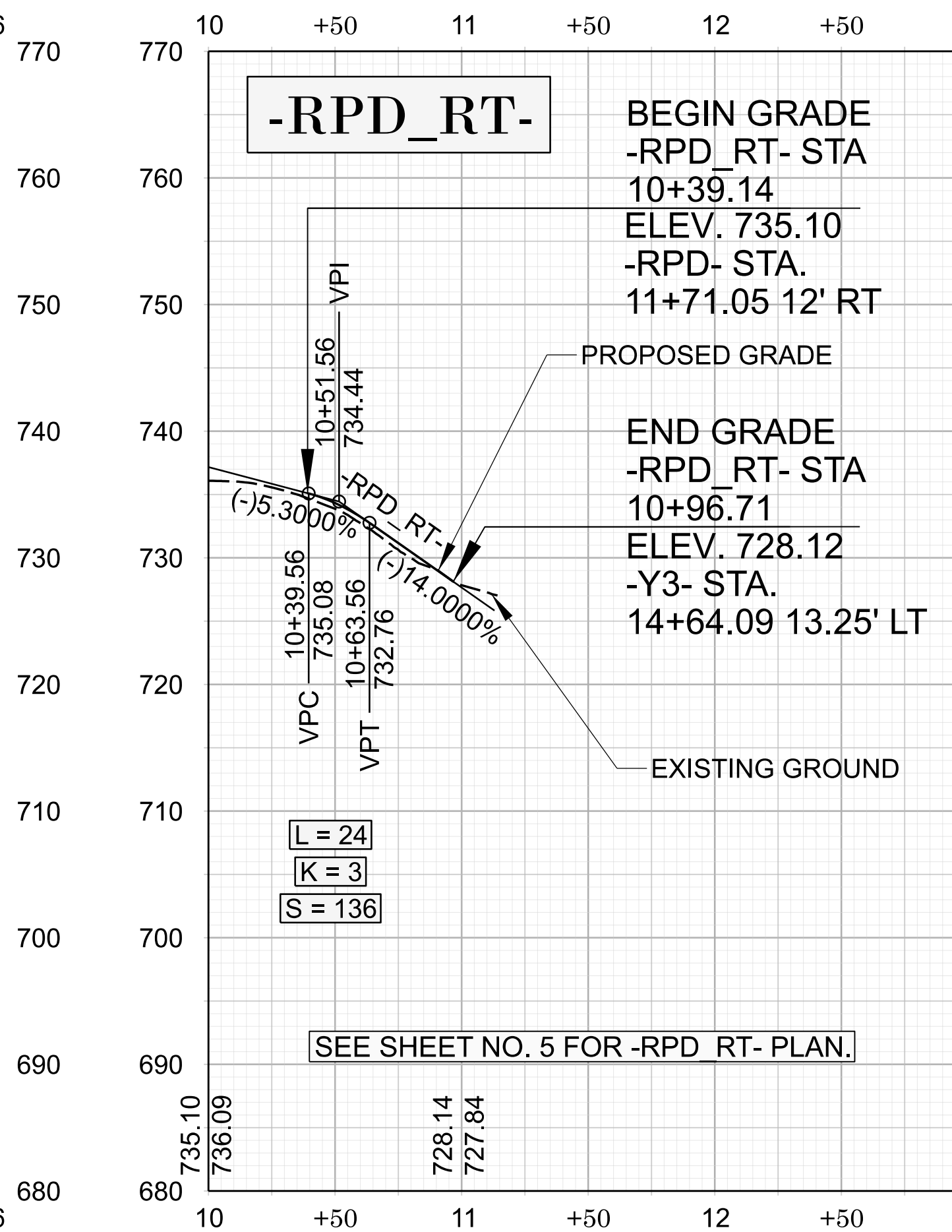
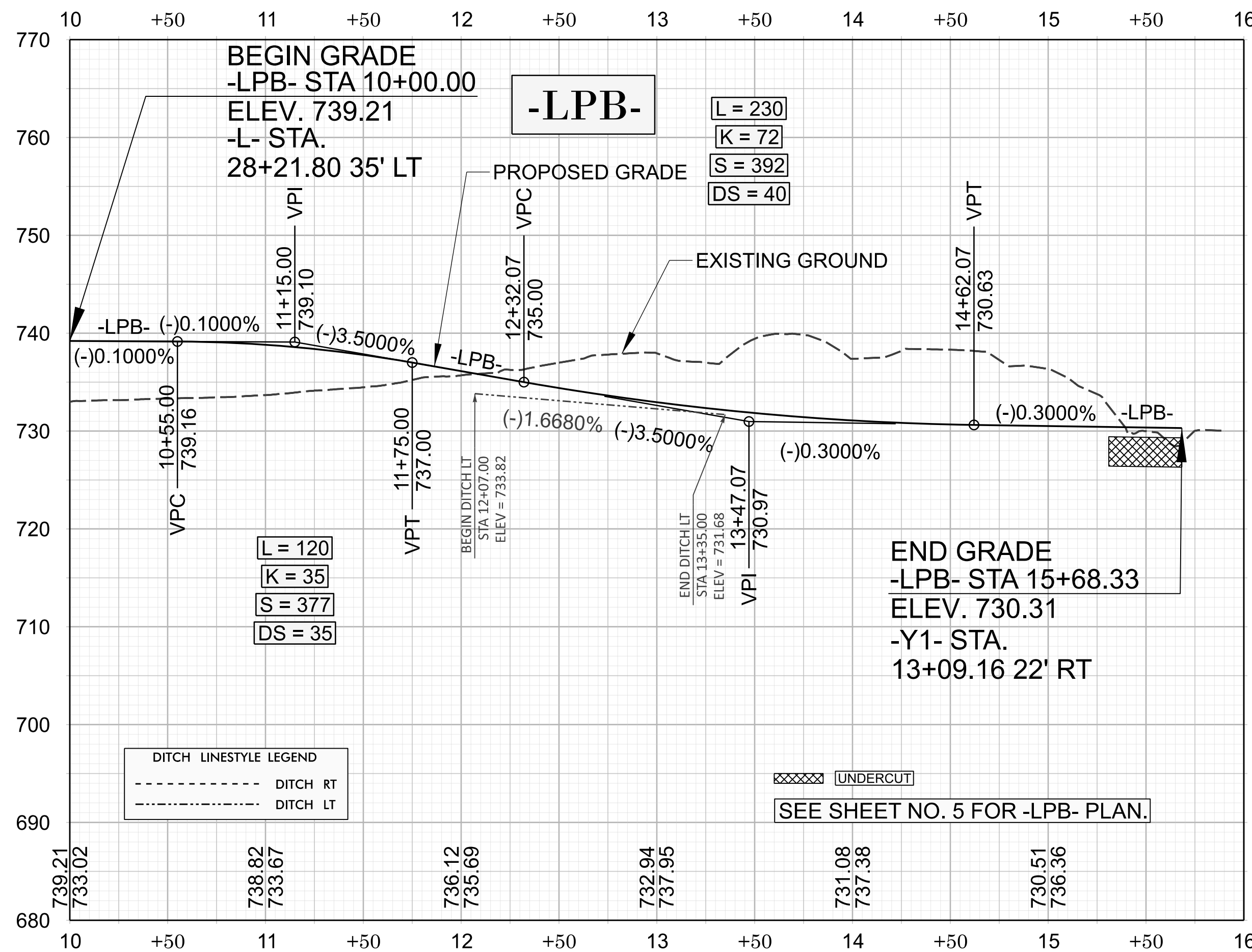
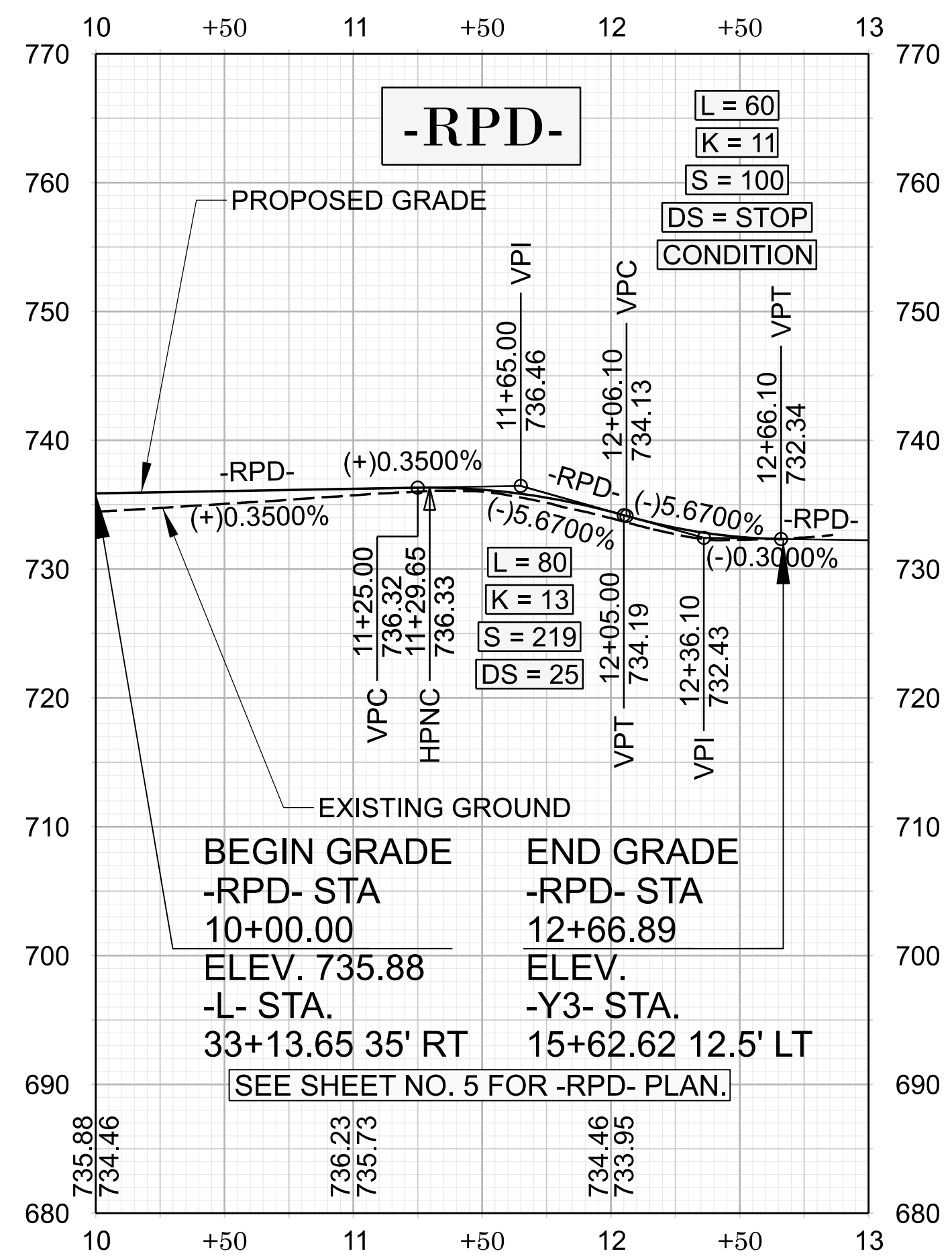
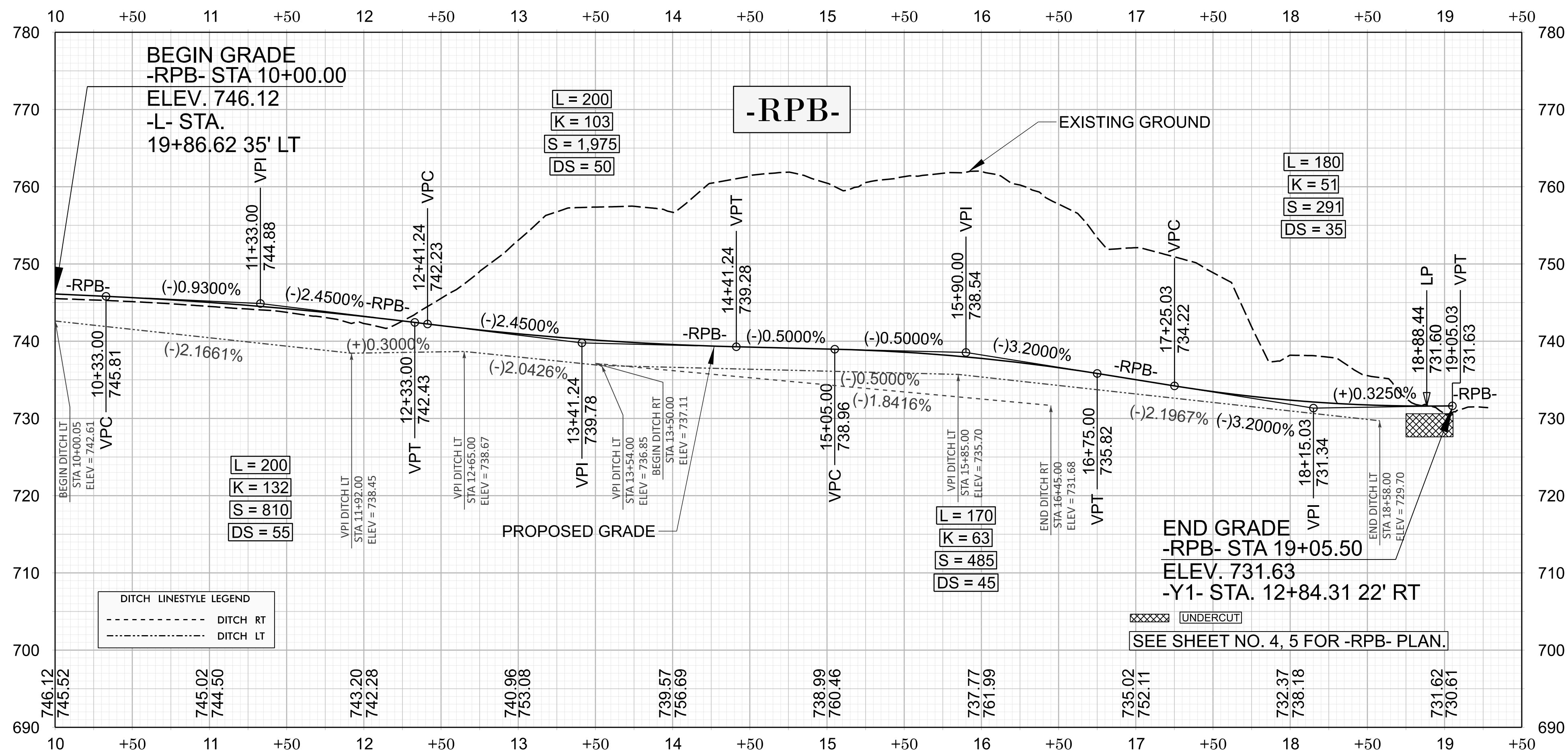
Signature: *William N. King*

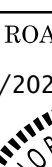
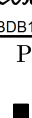
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BR-0015	
FINAL	10
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DAVIDSON COUNTY	
	
HIGHWAY DIVISION 9	
ROADWAY DESIGN ENGINEER	
4/11/2022	
	
Signature: <u>Andrew B. Gordon</u> (S-3AT7636647154C1)	
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HYDRAULICS ENGINEER	
3/11/2025	
	
Date: <u>3/11/2025</u> (S-11B1186115064FD)	
PREPARED BY	
	
KISINGER CAMPO & ASSOCIATES	
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REVIEWS